

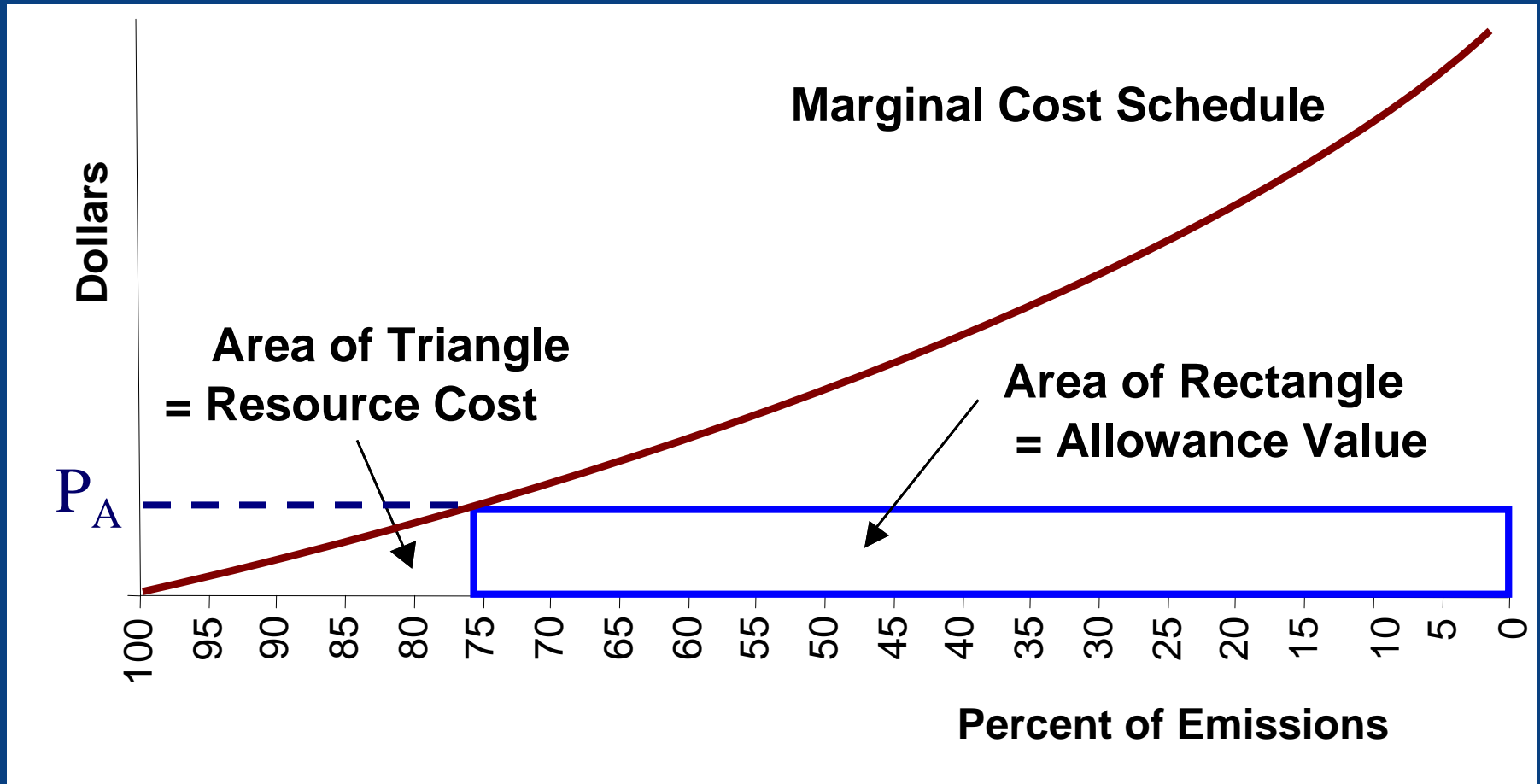
# Auctions and Allocation of Allowance Value in Climate Policy

“Understanding the Cost and Benefits of Auctioning Carbon Emissions Rights”  
Senate EPW Minority Staff Roundtable Discussion

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# Why CO<sub>2</sub> is Different.



## Interest #1: Allocation

# Design Element: Allocation

## Public Policy Justifications for Assigning Allowance Value

### Government use of revenue

- General revenue
- Program goals: R&D, infrastructure, adaptation

### Compensation

- Reduce preexisting taxes
- Free allocation to incumbent firms
- Free allocation to consumers

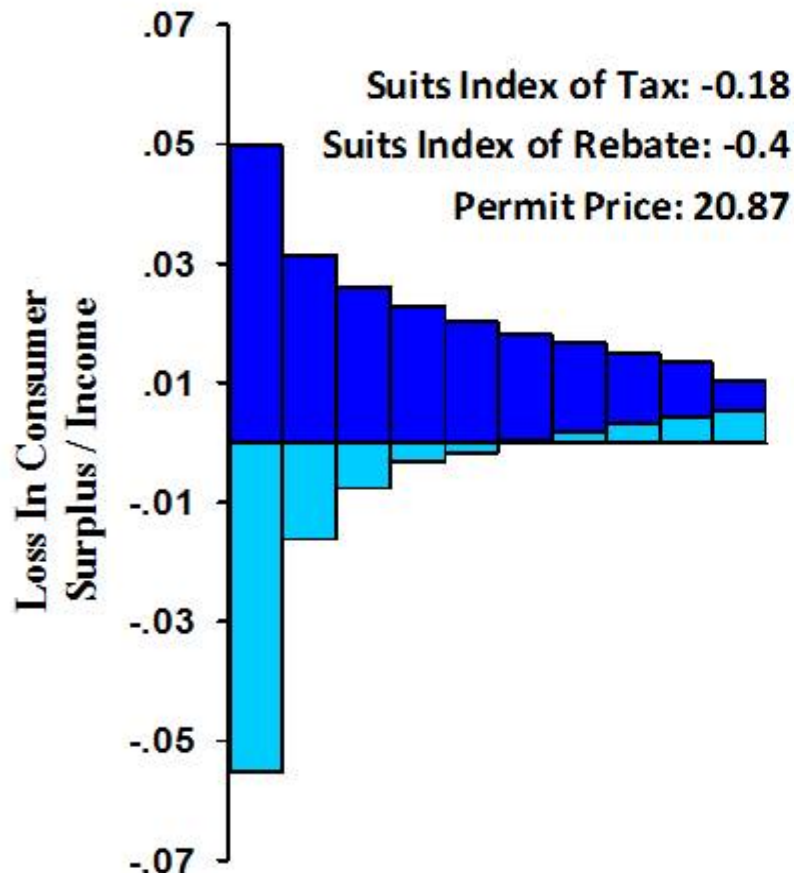
### Owners of a “common pool resource”

- Per capita dividends

# Cap and Per-capita Dividend

**Dark Blue: Effect of cap/tax**

**Light Blue: Net effect after accounting for revenue**



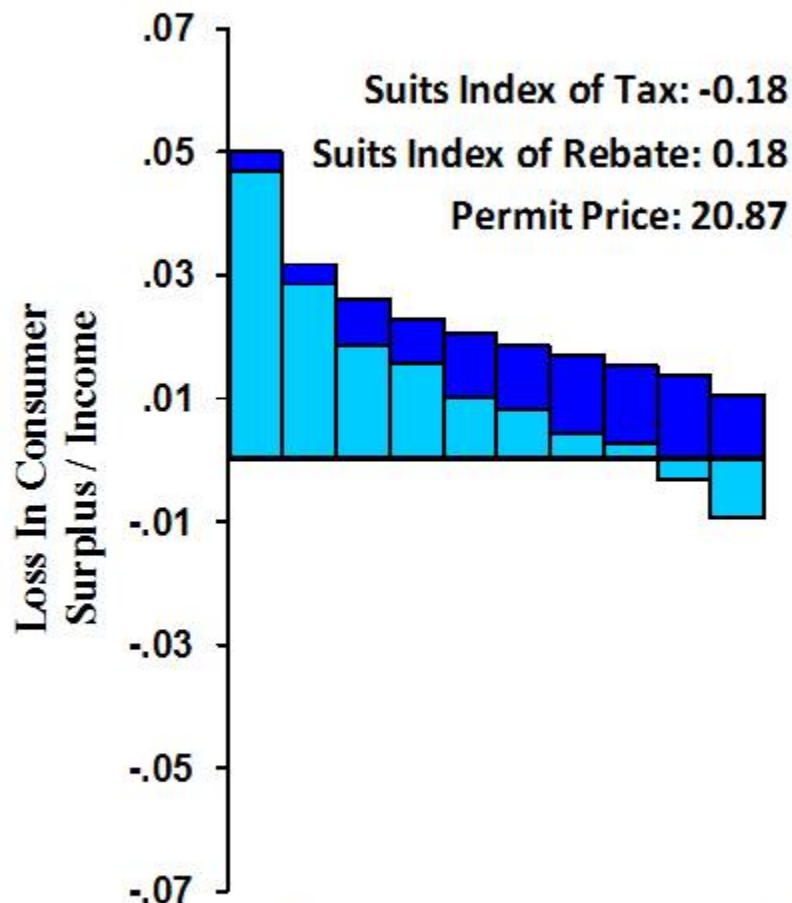
	Loss of Welfare for Households Earning Under \$19,208		Average Loss of Welfare	
	\$	%	\$	%
Southeast	-\$284	-3.13%	\$85	0.15%
CA	-\$459	-4.70%	\$29	0.04%
TX	-\$516	-5.39%	\$3	0.00%
FL	-\$240	-2.56%	\$42	0.08%
Ohio Valley	-\$198	-2.22%	\$210	0.35%
Mid-Atlantic	-\$217	-2.36%	\$198	0.30%
Northeast	-\$164	-1.87%	\$234	0.34%
Northwest	-\$314	-3.54%	\$78	0.13%
NY	-\$308	-3.53%	\$56	0.08%
Plains	-\$236	-2.74%	\$285	0.45%
Mountains	-\$320	-3.59%	\$134	0.23%
National	-\$317	-3.56%	\$86	0.15%

Note: Negative numbers in the table reflect gains in welfare. A negative Suits Index number represents regressive taxation and positive rebates. In the table, \$19,208 in annual income after taxes and transfers represents the bottom two deciles nationally.

# Reducing Income Tax

**Dark Blue:** Effect of cap/tax

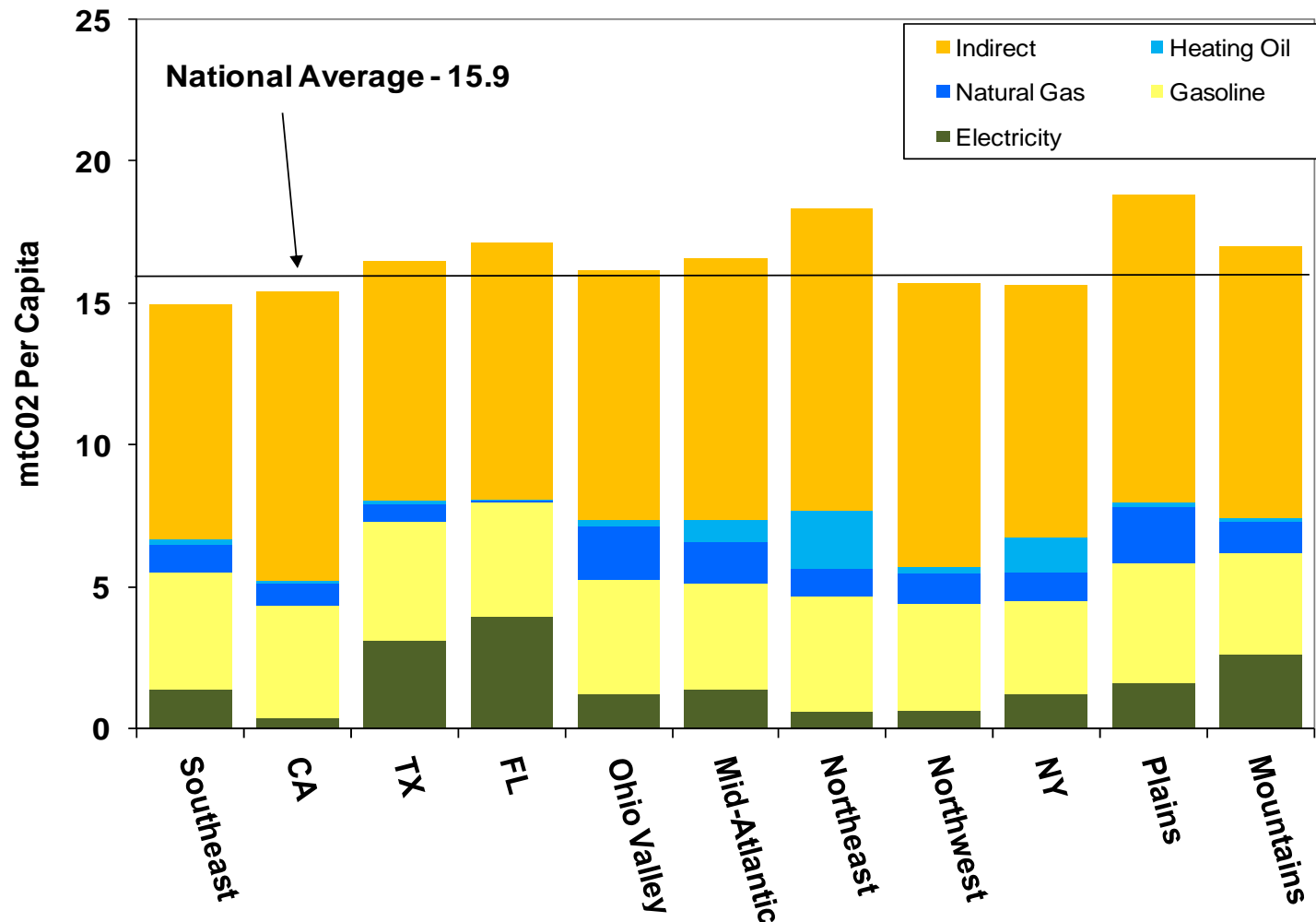
**Light Blue:** Net effect after accounting for revenue



Loss of Welfare for Households Earning Under \$19,208			Average Loss of Welfare	
	\$	%	\$	%
Southeast	\$448	4.38%	\$127	0.23%
CA	\$344	3.28%	-\$101	-0.15%
TX	\$390	3.75%	\$88	0.15%
FL	\$404	3.81%	\$99	0.18%
Ohio Valley	\$464	4.49%	\$163	0.27%
Mid-Atlantic	\$439	4.23%	\$12	0.02%
Northeast	\$444	4.39%	-\$40	-0.06%
Northwest	\$384	3.81%	\$38	0.06%
NY	\$368	3.64%	-\$85	-0.13%
Plains	\$394	3.94%	\$153	0.24%
Mountains	\$464	4.64%	\$153	0.26%
National	\$382	3.75%	\$86	0.15%

Note: Negative numbers in the table reflect gains in welfare. A negative Suits Index number represents regressive taxation and positive rebates. In the table, \$19,208 in annual income after taxes and transfers represents the bottom two deciles nationally.

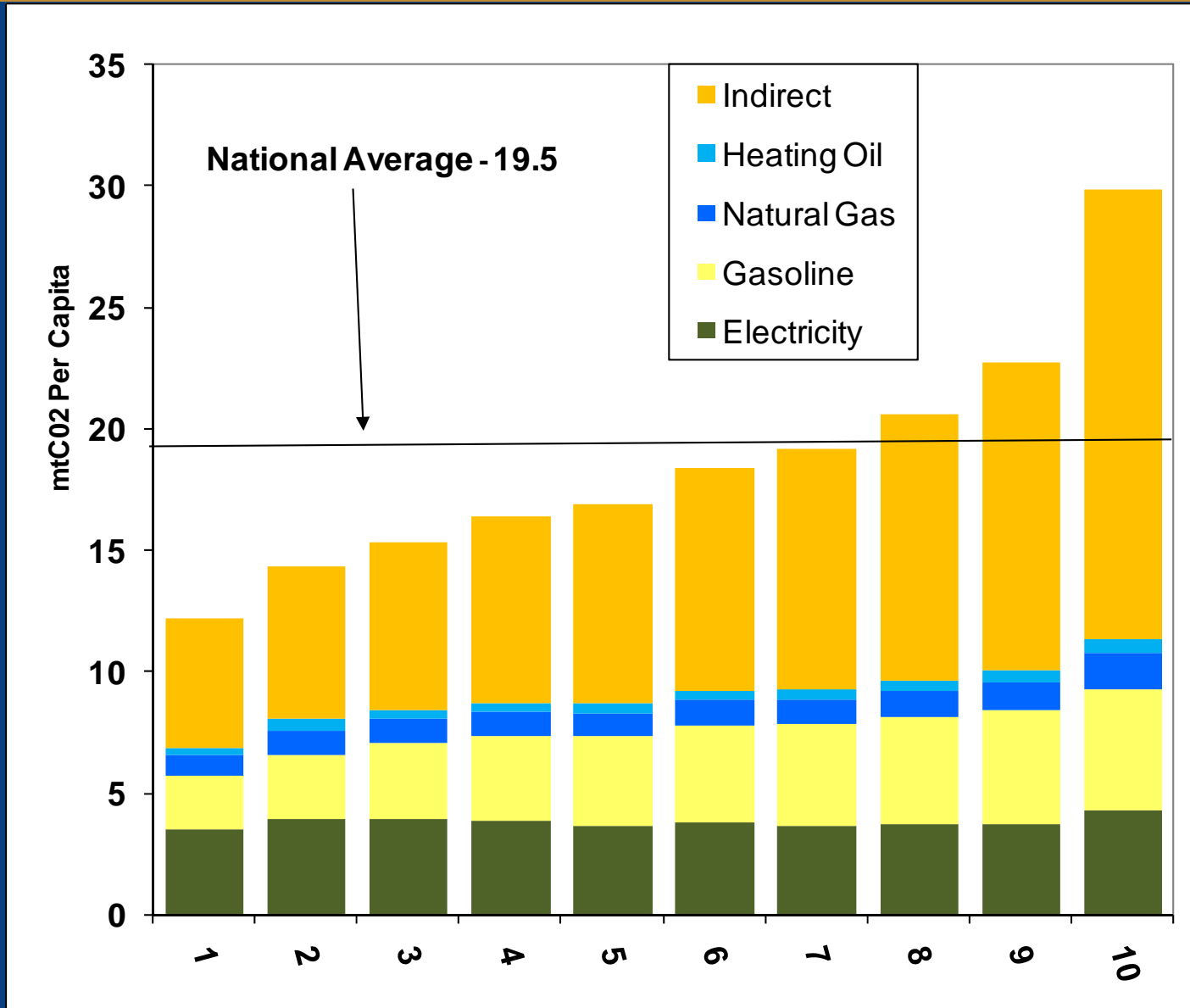
# Average per Capita Carbon Footprint **by Region**



Note: Figures exclude government emissions and reflect adjustments for CAFE. Prior to these adjustments, per capita emissions equal 20.2 mt per capita.

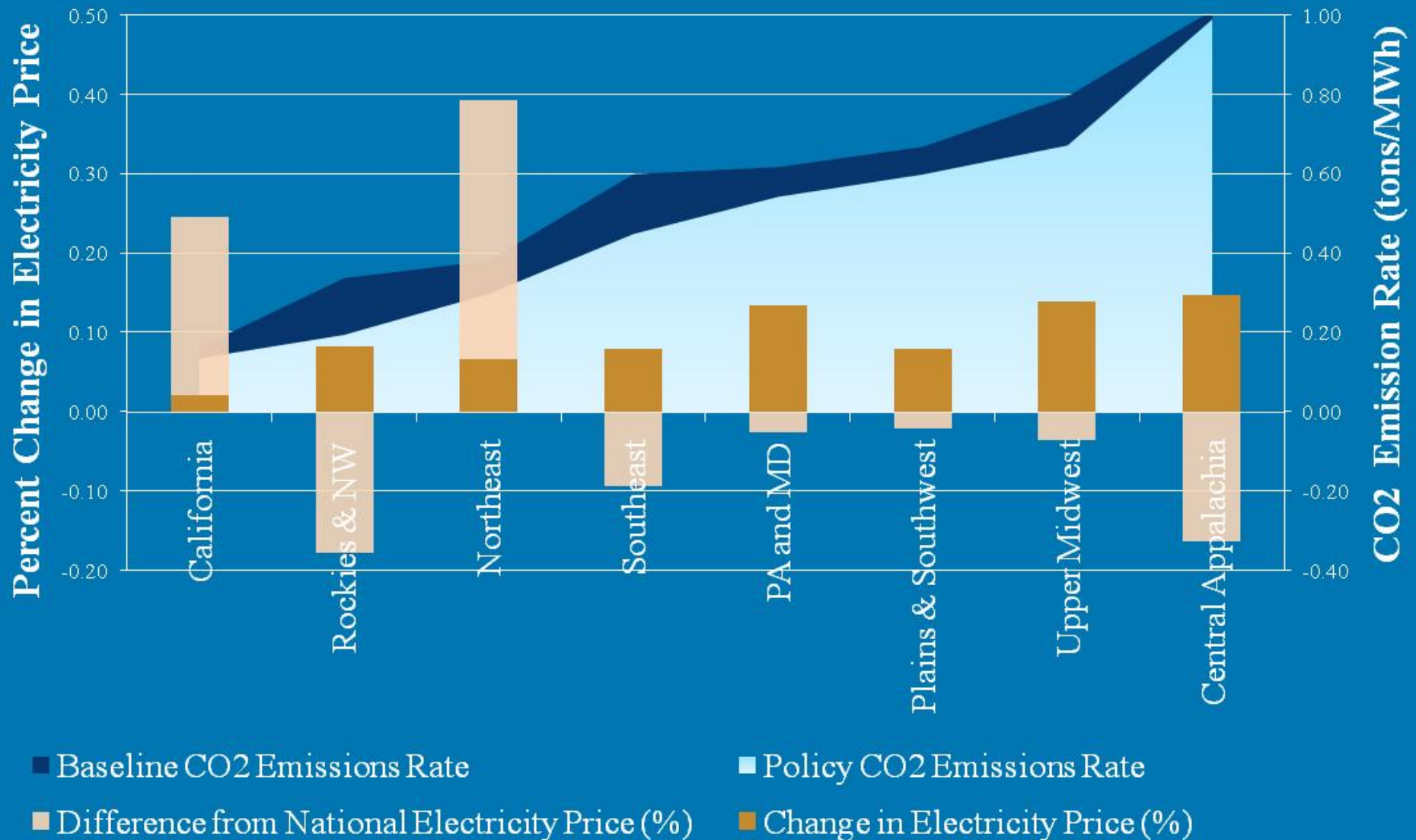


# Emissions (mtCO<sub>2</sub>) per Capita **by Income Decile** for the Nation



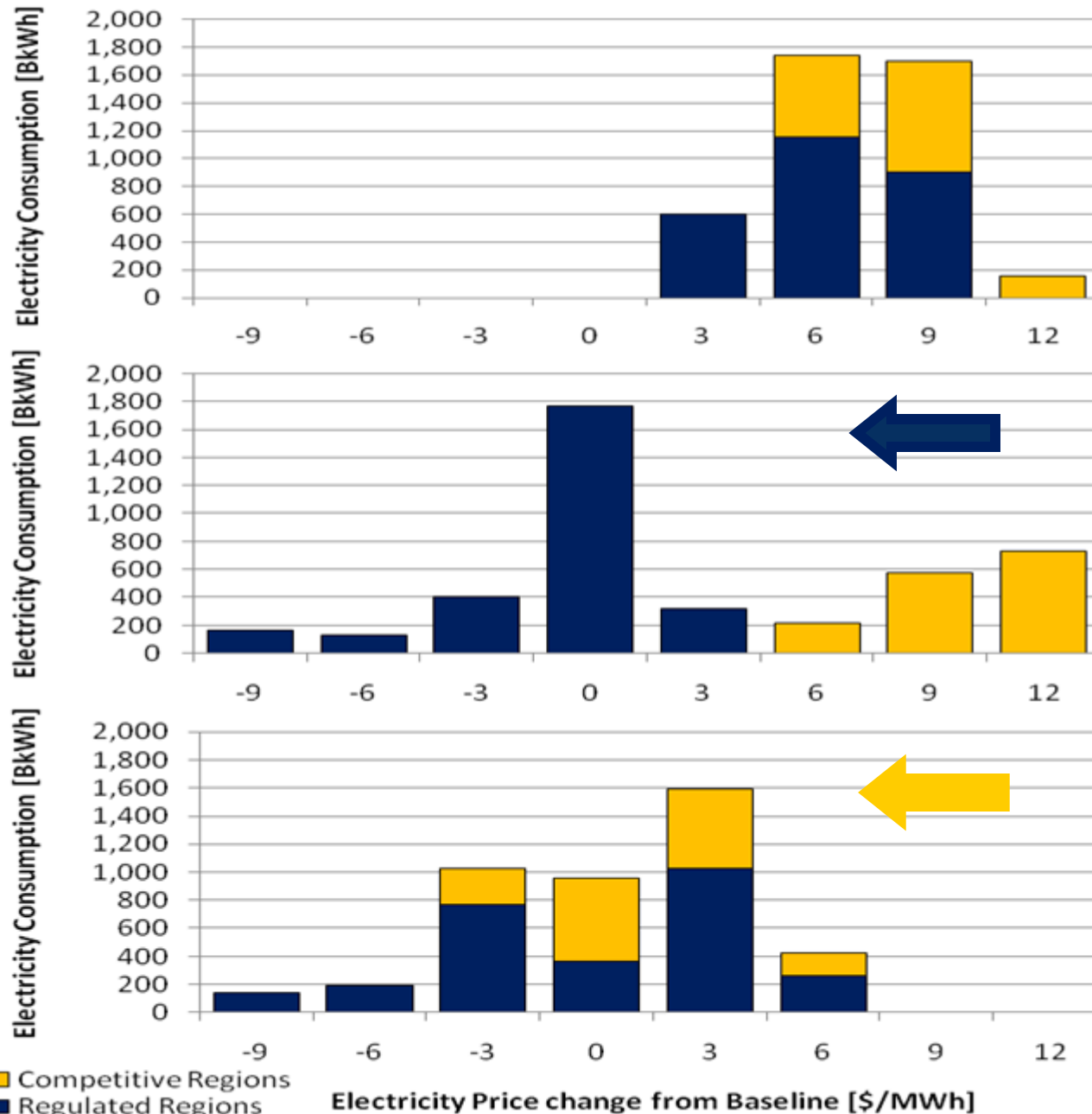


# Electricity Prices & Emissions Rates (L-W auction in 2020)





# Lieberman-Warner: Electricity Price Effects of Allowance Allocation



## Auction

Efficiency Advantage  
Lowest Social Cost  
but Higher Prices

## Free Allocation to Generators

Reduces Price only  
in Regulated  
Regions

## Free Allocation to Consumers (LDCs)

...But, Allowance  
Price Increases  
by **12-15%** With  
Subsidy to Elec.  
Consumption

# Conclusions

- Property rights to CO<sub>2</sub> convey tremendous value.
- Policy options have significant efficiency implications and differences for regions and income groups.
- How we resolve this issue will be crucial to our ability to forward with climate policy in the future.

Thank you!

